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ALDO LEOPOLD



WILDERNESS RESEARCH

INSTITUTE

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**Providing scientific leadership
to sustain wilderness**

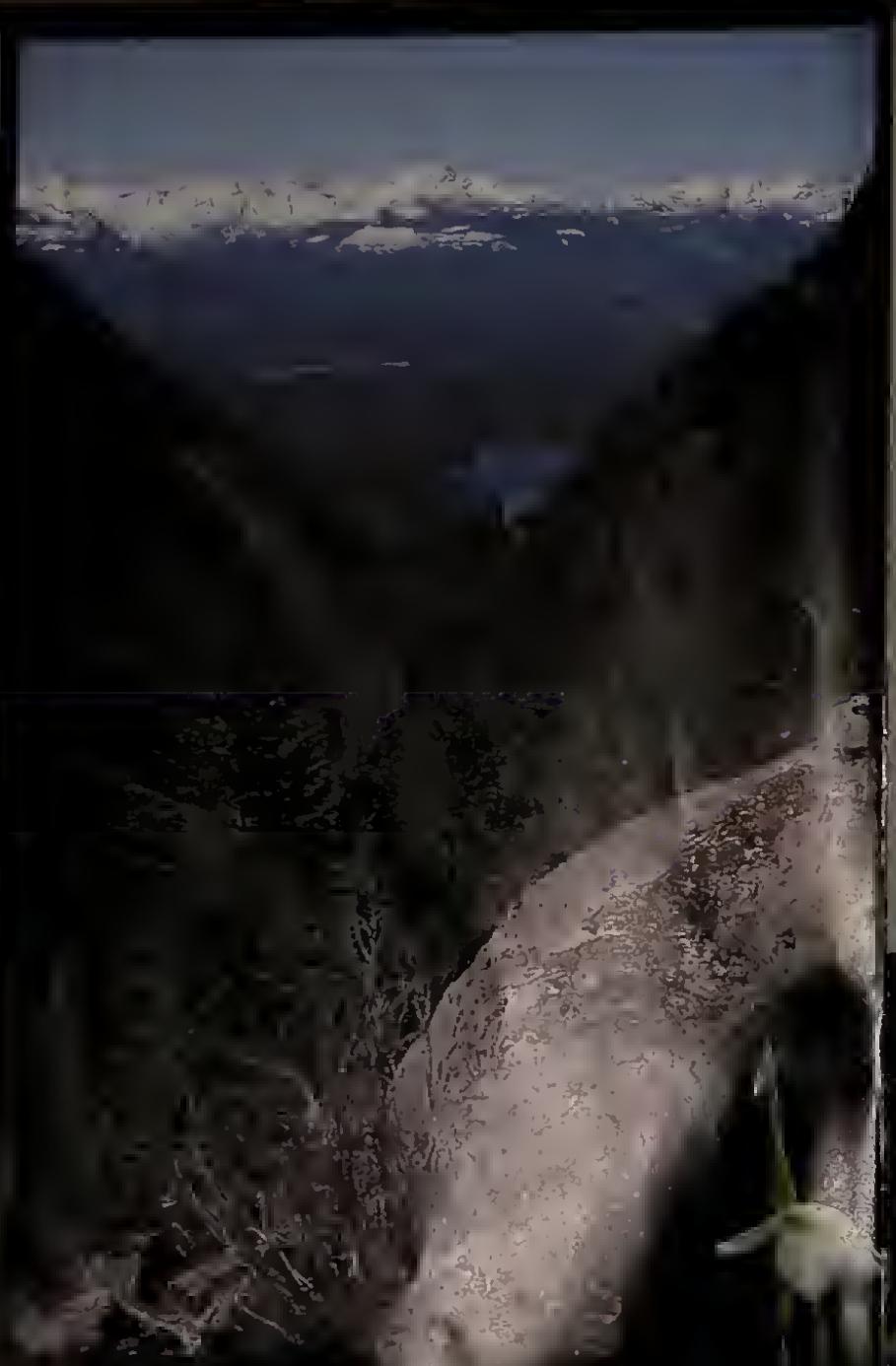


United States
Department
of Agriculture

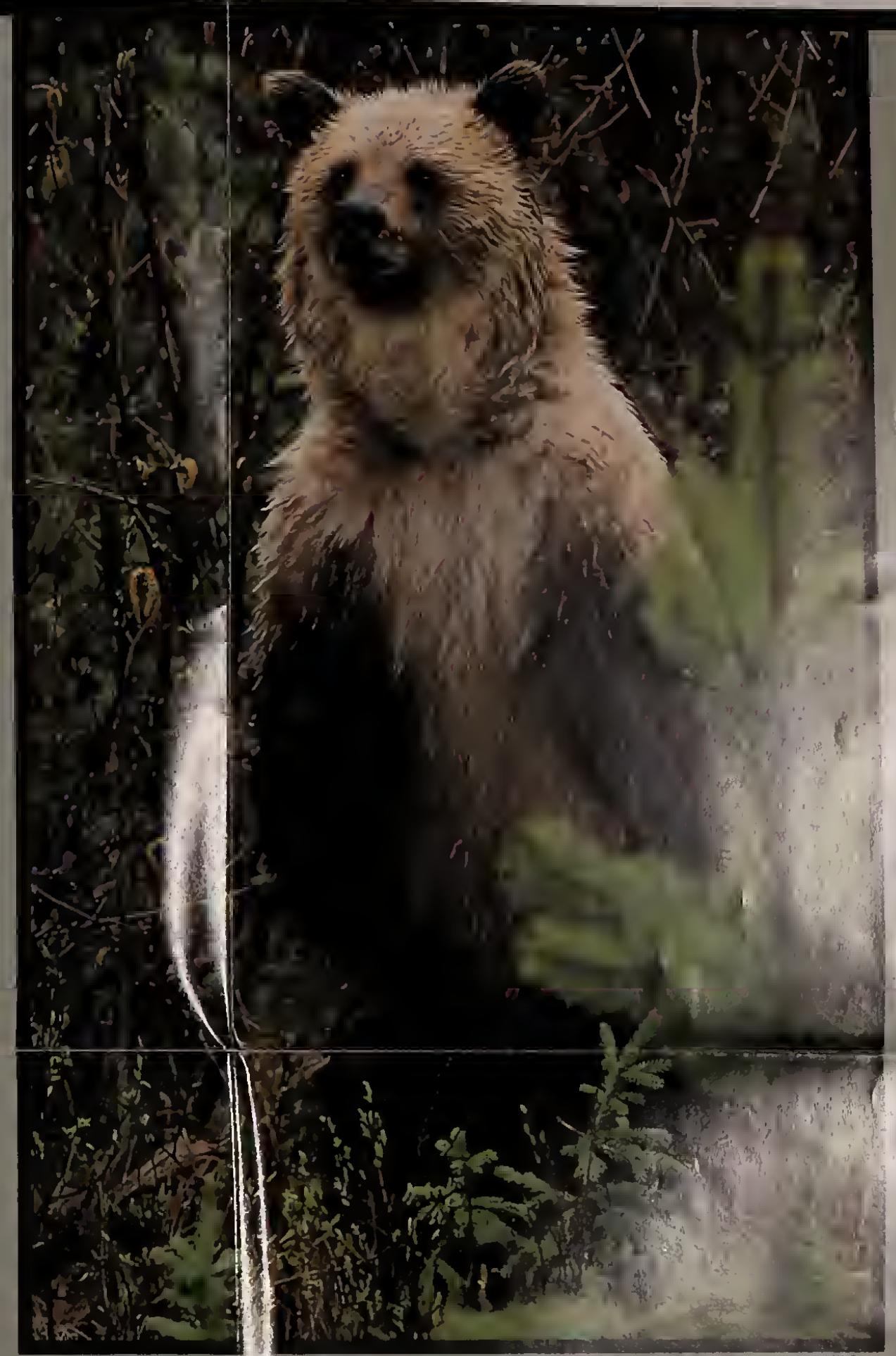
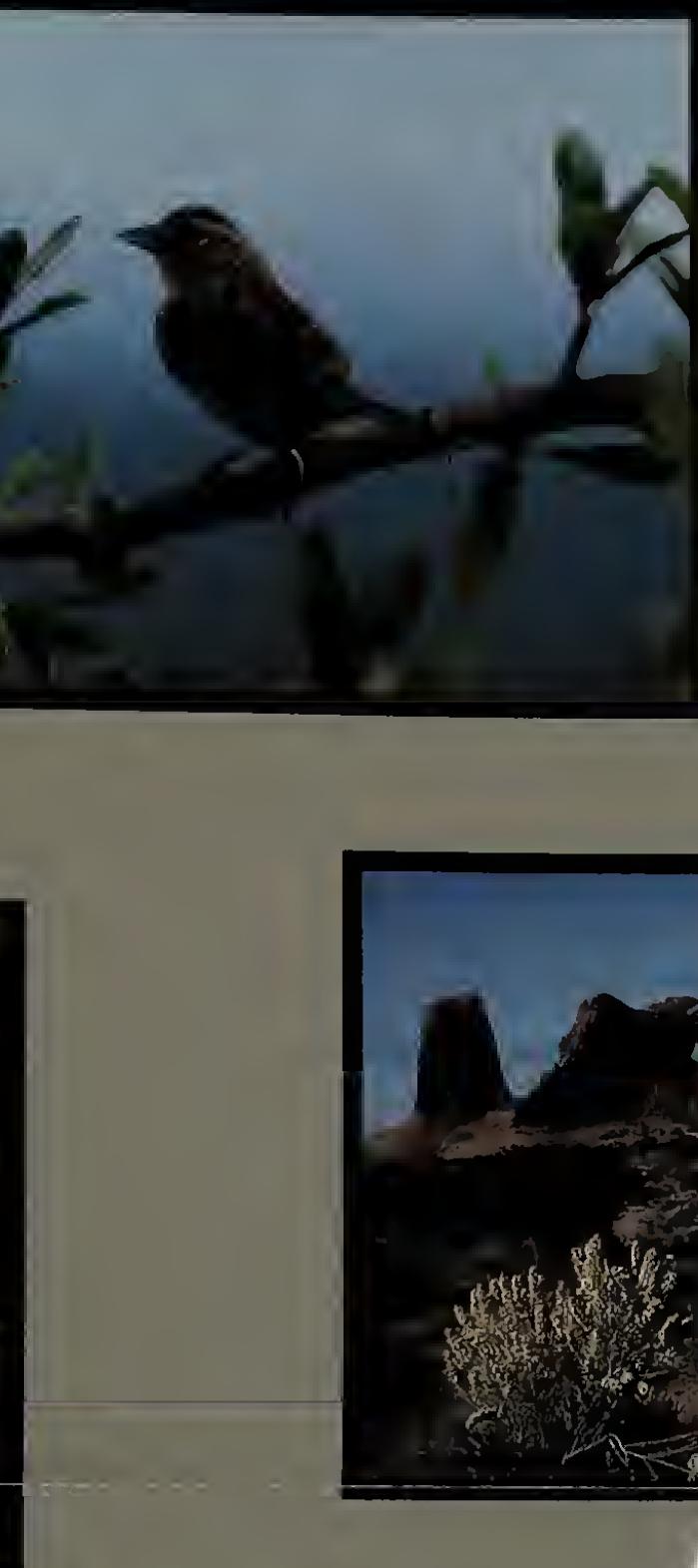
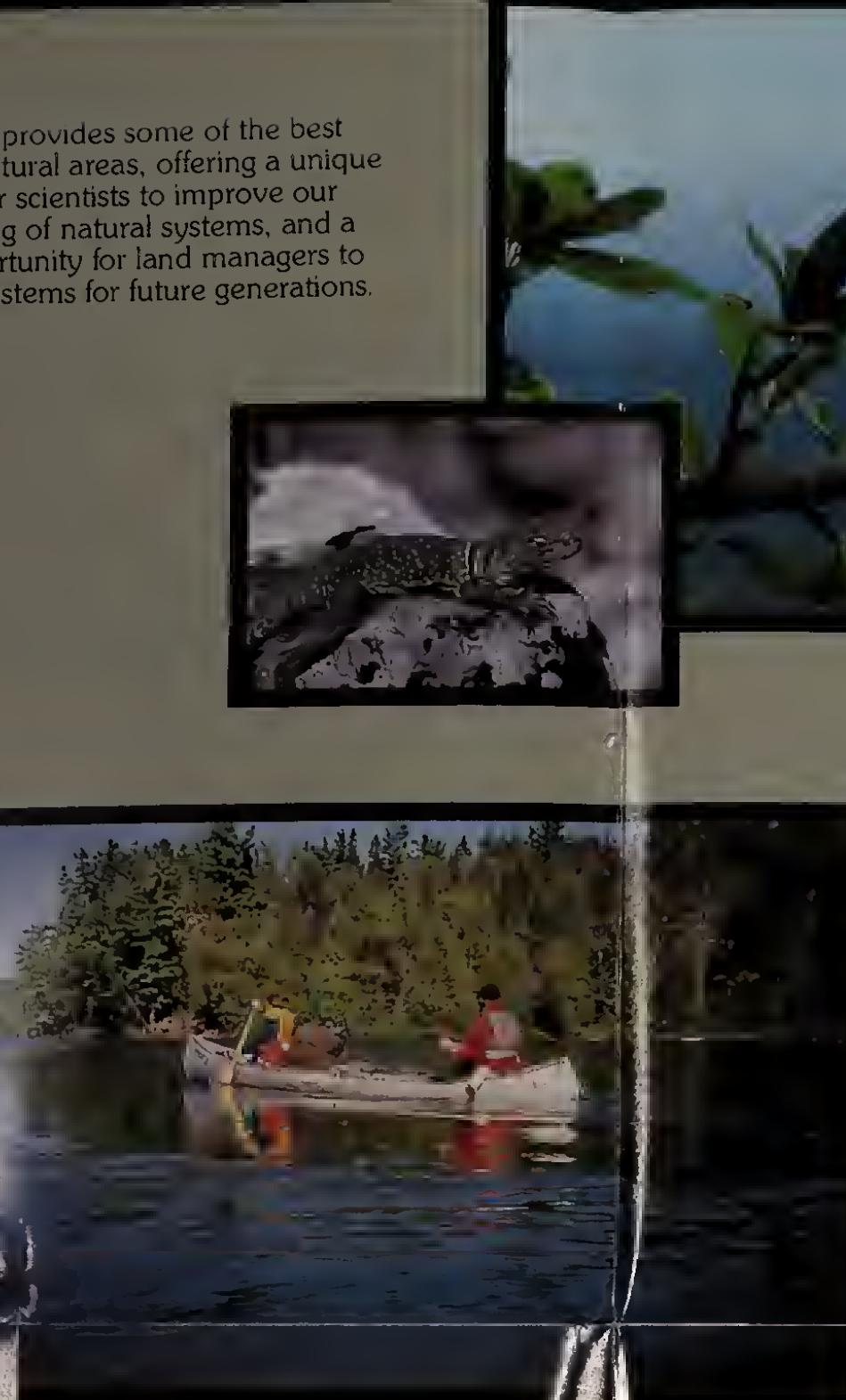
Forest Service

Intermountain
Research Station

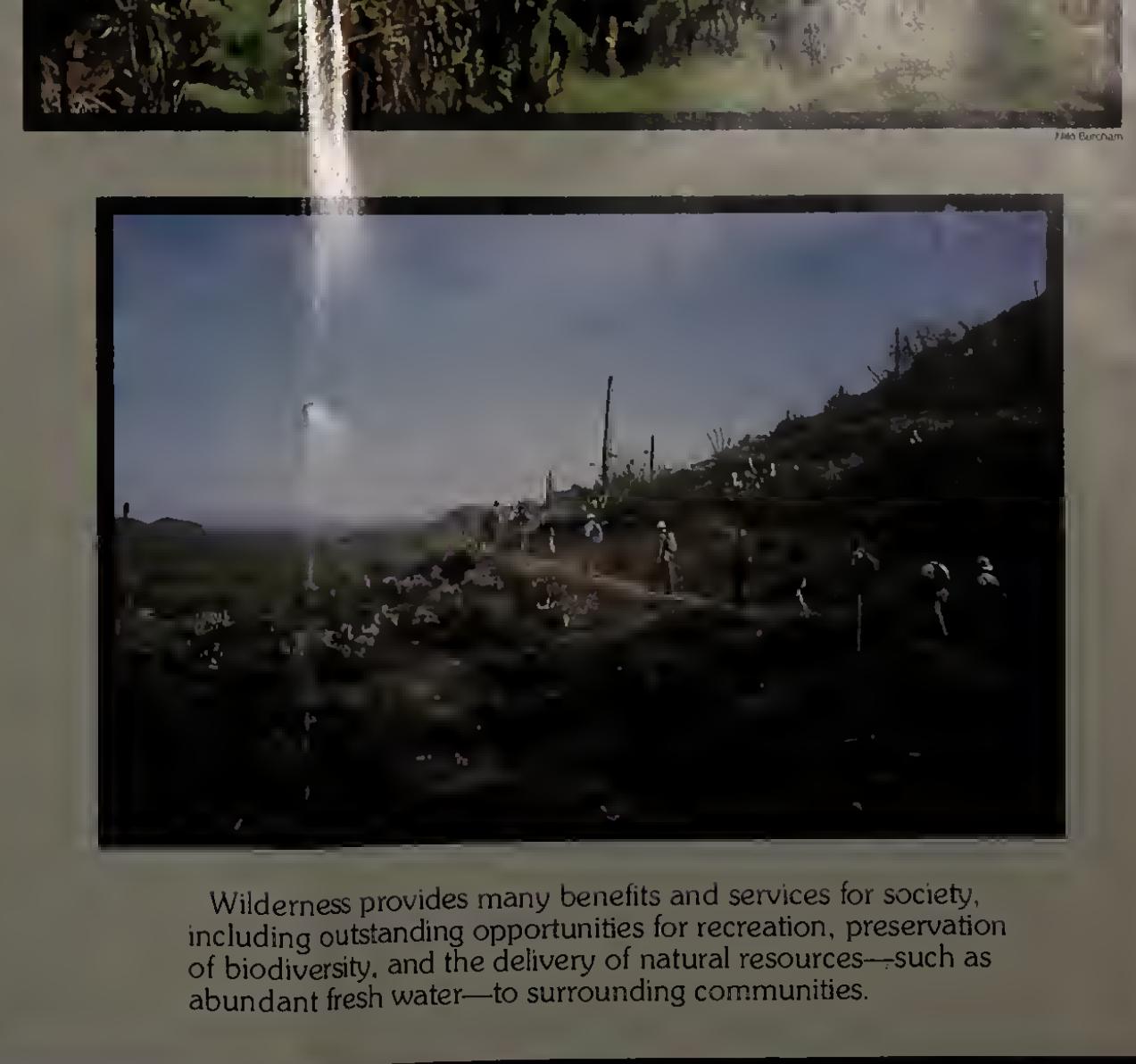




Wilderness provides some of the best remaining natural areas, offering a unique laboratory for scientists to improve our understanding of natural systems, and a unique opportunity for land managers to sustain ecosystems for future generations.



"For me, and for thousands with similar inclinations, the most important passion of life is the overpowering desire to escape periodically from the clutches of a mechanistic civilization. To us the enjoyment of solitude, complete independence, and the beauty of undefiled panoramas is absolutely essential to happiness." *Bob Marshall*



"The richest values of wilderness lie not in the days of Daniel Boone, nor even in the present, but rather in the future." *Aldo Leopold*

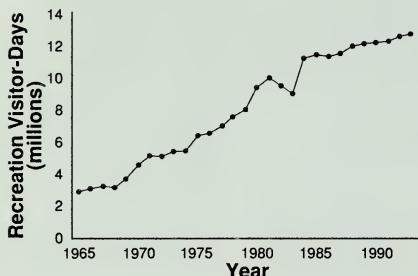
Wilderness provides many benefits and services for society, including outstanding opportunities for recreation, preservation of biodiversity, and the delivery of natural resources—such as abundant fresh water—to surrounding communities.

WHY WILDERNESS RESEARCH?

"The recreation value of wilderness has been often and ably presented, but its scientific value is as yet but dimly understood," Aldo Leopold wrote.

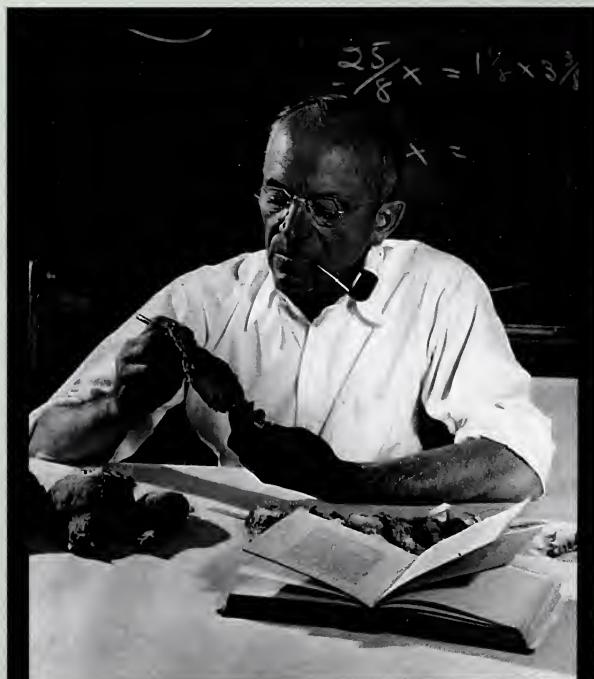
Increasing use of wilderness areas, and development pressures outside of wilderness, create stresses that threaten the biological and societal benefits derived from wilderness. Managers struggle to understand these threats and to protect and restore natural conditions and opportunities for wilderness experiences. Managers need rigorous scientific research results to understand:

- The character of wilderness ecosystems.
- The biological and social impacts of human activities on wilderness ecosystems.
- The role of wilderness in larger social systems.
- The impact of different policy and management alternatives.



Recreational use of National Forest wilderness has increased since passage of the Wilderness Act in 1964.

Aldo Leopold was one of the early leaders of the American wilderness movement. As a young Forest Service employee, Leopold was instrumental in the 1924 designation of the first Forest Service wilderness on the Gila National Forest in New Mexico. In later years Leopold developed eloquent arguments for the importance of wilderness preservation, development of a land ethic, and an understanding of the importance of the integrity and beauty of nature.

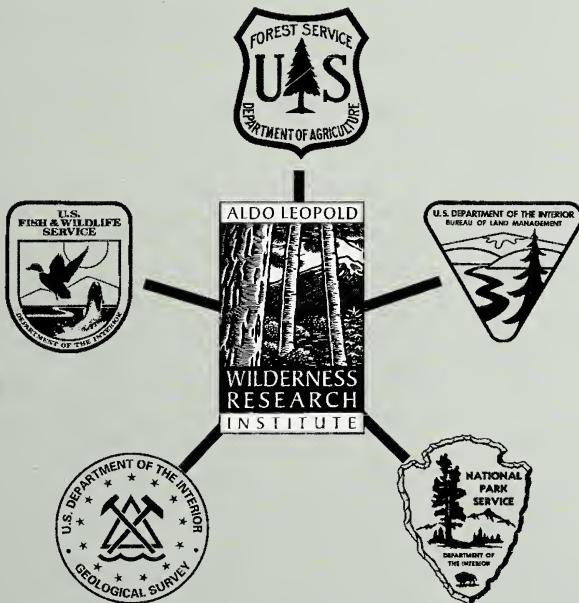


By Robert C. Oetting, Courtesy of the University of Wisconsin-Madison Archives

THE LEOPOLD INSTITUTE

The Aldo Leopold Wilderness Research Institute is the only research group in the Nation dedicated to developing the knowledge needed to improve management of wilderness and other natural areas. Located on the University of Montana campus in Missoula, the Leopold Institute was formally established in 1993 by the USDA Forest Service. The Institute's origin is the Wilderness Management Research Unit, Intermountain Research Station, Forest Service. The unit was created in 1967, only 3 years after passage of the Wilderness Act.

The Leopold Institute operates under an interagency agreement among the four wilderness management agencies and the Biological Resources Division of the U.S. Geological Survey, formerly the National Biological Service. Managers and scientists from all five agencies play an active role in developing Institute programs and priorities.



The Leopold Institute mission: provide scientific leadership in developing and using the knowledge needed to sustain wilderness ecosystems and values.



Sequoia-Kings Canyon Wilderness, California

WILDERNESS

In wildness is the preservation of the world," Henry David Thoreau wrote long ago when most of America was still wilderness. Our society has long recognized the value of natural landscapes. The Wilderness Act of 1964, and over 100 subsequent wilderness acts, "...secure for the American people of present and future generations the benefits of an enduring resource of wilderness."

Natural areas, and the forces that created and still influence them, provide many biological and social benefits. A primary biological benefit is the natural diversity of life in such areas. Societal benefits include recreation, personal growth, education, and scientific study of relatively intact ecosystems.

Today, over 103 million acres, from desert to alpine meadows, provide these biological and societal benefits as Federally designated Wilderness managed by the Forest Service, National Park Service, Bureau of Land Management, and Fish and Wildlife Service. Other areas, including parks and preserves, are managed for similar values by Federal and State governments and private organizations.



Scientific research leads to better wilderness management decisions.

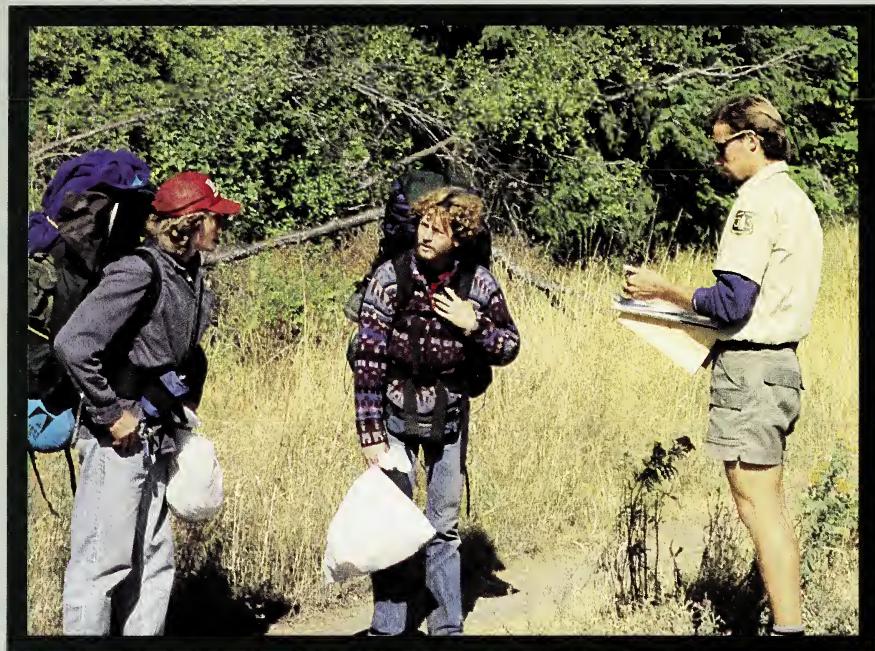
THE INSTITUTE'S AGENDA FOR WILDERNESS RESEARCH

The Leopold Institute's unique combination of multidisciplinary and interagency collaboration between scientists and managers sets the stage for leadership in addressing wilderness ecosystems sustainability issues. Specific research programs at the Institute follow the broad themes of:

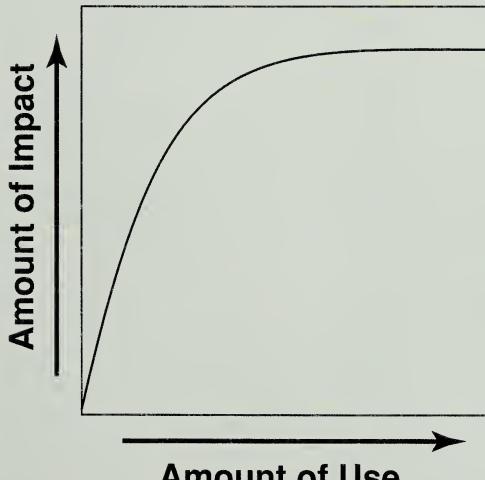
- Understanding the effects of recreation use and recreation management strategies on wilderness attributes.
- Understanding natural disturbance regimes and the effects of their alteration by human actions; developing strategies to restore and manage natural disturbances in wilderness ecosystems.
- Understanding effects of nonnative plants and animals and their management in wilderness.

Because research and management needs are dynamic, these themes and programs will be periodically reviewed and adjusted. Other topics of importance that will be considered for funding as resources permit include:

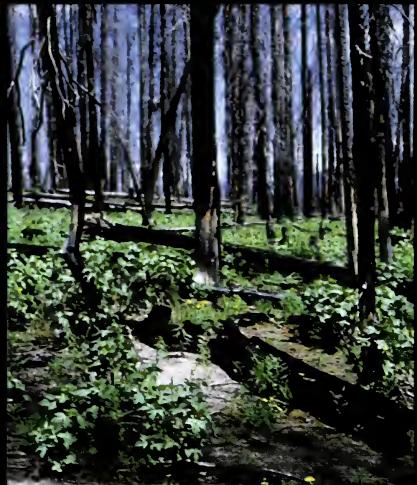
- Understanding the role of wilderness in larger social systems.
- Understanding relationships between wilderness and larger ecological systems.
- Understanding effects of livestock and its management on wilderness ecosystems.



Wilderness research integrates understanding of biological and social benefits of wilderness. Researchers survey wilderness visitors to find out who they are, their experiences, and their attitudes. This helps guide managers as they determine how best to protect wilderness conditions and experiences.



This generalized model shows the relationship between use and amount of impact on the land. This relationship tells managers they can minimize impacts by concentrating use in regularly visited places and dispersing use in places that receive little visitation.



“If we are serious about restoring (or maintaining) ecosystem health and ecological integrity, then we must know what the land was like to begin with.”

Aldo Leopold



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GOALS OF THE LEOPOLD INSTITUTE

- Develop the knowledge needed to protect and preserve wilderness and the ecological and social values derived from wilderness.
- Communicate and apply this knowledge to the wilderness management agencies and other user groups.

ROLES OF THE LEOPOLD INSTITUTE

Research

All Institute research strives to improve wilderness management and respond to the needs of wilderness management agencies. The Institute conducts, supports, and coordinates research on the biological and social attributes and benefits of wilderness, and threats to the same attributes and benefits. Research activities include in-house studies and cooperative and contract projects with scientists from other agencies and universities across the Nation. The Institute applies rigorous scientific standards to develop information of the highest possible quality.

Application

The Institute is committed to improving communication and to forging closer ties between managers and scientists. The Institute's research information is available to managers, educators, policymakers, other scientists, and the general public. It publishes research results in peer-reviewed journals and other media and is a sponsor of the *International Journal of Wilderness*. The Institute develops and maintains libraries, bibliographies, databases, and protocols. Institute staff conduct workshops and provide consultation to scientists and managers.

“A science of land health needs, first of all, a base-datum of normality, a picture of how healthy land maintains itself as an organism.”

Aldo Leopold

COOPERATIVE RESEARCH

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The Leopold Institute participated in more than 45 research projects conducted in 37 Wildernesses, Parks, and other natural areas throughout the Nation during the last several years. Scientific collaborators included researchers at 20 universities, other Federal agencies, and nongovernment organizations. Recent cooperators include:

University of Montana
Virginia Polytechnic Institute
Utah State University
Texas A&M University
University of South Alabama
West Virginia University
Colorado State University
University of Massachusetts
Portland State University
Idaho State University
University of Idaho
University of Illinois
Oregon State University
University of Arizona
Southern Illinois University
Clemson University
Cal Poly San Luis Obispo

University of California—Berkeley
University of California—Santa Barbara
Bureau of Land Management
National Park Service
National Biological Service (now the
Biological Resources Division of the
U.S. Geological Survey)
Various National Forests and Research
Stations
National Outdoor Leadership School
Recreation Equipment Inc.
Yosemite Institute
WILD Foundation
International Llama Association
Various International Agencies and
Organizations

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*Studies of aquatic organisms are essential
to understanding biological diversity in
wilderness.*